2-2-2001

Washington University Record, February 2, 2001

Inside: Ford Foundation pioneers community enrichment & asset building **2**

Medical News: Brain images show language recovery after ischemic stroke **3**

Washington People: Benjamin C.P. Lee develops magnetic resonance technology **8**

Record

Feb. 2, 2001

Volume 25 No. 17

Washington University in St. Louis

KEVIN LOWDER

Dancing dragon Fancy dragon steps were part of the fun for the 320 people attending the Olin Chinese New Year Party presented Jan. 26 in Simon Hall by Chinese students at the Olin School of Business. The celebration of the Year of the Snake, aka the Little Dragon, began with 15 women MBA students wearing Chinese national dress serving a traditional Chinese dinner in student lounges. Afterward, in May Auditorium, there was singing, a presentation on Chinese culture and economic development, a drama, a sample of Huang-Mei opera, a "Crouching Tiger, Hidden Dragon" segment, and Chinese dances. There are 40 MBA and several undergraduate students from the People's Republic of China and from Hong Kong at the Olin School. Many of them helped stage the event, designed to show the richness of the 7,000-year-old Chinese culture.

Renovations, repairs and replacements guide infrastructure

By Betsy Rogers

At a time of unprecedented new building on both the Hilltop and Medical campuses, the University's investments in infrastructure and its ongoing efforts to repair, renovate and replace its buildings sometimes go unsung.

Cornerstones for three University buildings — Brookings, Busch and Cupples I halls — were laid in 1900, and numerous others are close to that age. McMillan Hall dates from 1906, Ridgley from 1908.

The early buildings, designed by the highly respected Philadelphia firm of Cope and Stewardson in the collegiate Gothic style, formed the heart of a campus that would grow steadily over the century and become an oasis of green space, handsome architecture and intellectual activity in a burgeoning urban area.

However, with their advancing years on one hand and exploding new technologies on the other, these structures raise continuing refurbishment and upgrade issues. In recent years, electronic communications and disability access have required substantial investments.

But it's well worth it, according to Ralph H. Thaman Jr., associate vice chancellor for facilities planning and management.

"It's critical that we maintain the historical and architectural character of the campus," Thaman said. Many colleges and universities develop new master plans, but here, Thaman explained, Cope and Stewardson fulfilled that function a century ago.

"We continue to develop, but we always go back to Cope and Stewardson, which is the foundation of everything we do," Thaman said. "We are committed to preserving the architectural integrity of this campus."

He said that in addition to wonderful buildings, the original plan paid meticulous attention to the outdoors, providing green space and intimate courtyards. "The campus is our greatest marketing tool," Thaman said.

The University pays for refurbishments through its Repair, Renovation and Replacement Reserve Fund. The University's Trustees established the fund in 1995 to catch up with deferred maintenance problems, which an independent firm had assessed at $110 million. Each school pays into the fund from its revenue stream, and every time a new building goes up, its school develops a long-term maintenance plan for it.

In the past five years, nearly a dozen of the historic buildings have undergone major refurbishing, according to Steven G. Rackers, manager of capital projects on the Hilltop. "Major renovations" — architectural,

See **Buildings,** Page 6

> **"We are committed to preserving the architectural integrity of this campus."**
>
> Ralph H. Thaman Jr.

The Three R's: Renovations, Repairs and Replacements

This is the first of a three-part series on the University's investments on campus and in the community

This issue: Maintaining and upgrading the University's buildings

Feb. 9: The University's investments in surrounding neighborhoods

Feb. 16: New construction around campus

WU one of nation's first 'Responsive Ph.D.' institutions

By Donna Kettenbach

Washington University is paving the way for others with its innovative doctoral programs.

Because of its successful track record, the University is one of three inaugural universities joining with the Woodrow Wilson National Fellowship Foundation in its "Responsive Ph.D." initiative "to provide a richer purpose for Ph.D. education in the United States." Washington University, the University of Michigan-Ann Arbor and University of Washington-Seattle will get the initiative off the ground and begin implementing improvements in doctoral education.

"Washington University in St. Louis is serving as a model for universities across the country," said Robert E. Thach, dean of graduate studies in Arts & Sciences, who will chair a Deans Council, once other participating universities – up to 10 or 12 – are selected.

The Responsive Ph.D. grows in part out of the Woodrow Wilson Foundation's Humanities at Work program, which is expanding career opportunities for Ph.D.s from such fields as History and English inside and outside academia.

"There is a national realization that Ph.D.s have such exceptional research skills that they can apply them basically anywhere," Thach said. "The proficiency a student gains pursuing a Ph.D. can be

See **Ph.D. program,** Page 5

Could Venus have once been a wet planet?

By Trent C. Stockton

University researchers, studying hydrous mineral decomposition rates at extreme temperatures, have concluded that hot and dry Venus may have been a wet planet, like Earth and ancient Mars.

The new evidence suggesting a wetter Venusian history comes from a series of experiments documenting the chemical stability of tremolite for several billion years at temperatures similar to that of Venus' surface, about 740 degrees Kelvin – roughly 870 degrees Fahrenheit.

Tremolite is a mineral that forms in the presence of water. If tremolite or some other hydrous mineral can be detected on the surface of Venus, then it can be concluded that Earth's once-wet neighbor lost its water over time, putting to rest an enduring question in planetary science.

Graduate student Natasha M. Johnson and Professor Bruce Fegley Jr., Ph.D., of the planetary chemistry laboratory in the Department Earth and Planetary Sciences in Arts & Sciences, reported their findings in the

See **Venus,** Page 5

DAVID KILPER

Natasha M. Johnson, graduate student in earth and planetary sciences in Arts & Sciences, tends the furnace in the laboratory of Bruce Fegley Jr., Ph.D., professor of earth and planetary sciences. Johnson and Fegley heated tremolite, a mineral that forms in the presence of water, at extreme temperatures typical of the planet Venus.

6th annual Career Week opens Monday

By Neil Schoenherr

The prospect of looking for a job can be a daunting experience for many graduating students. However, the Career Center hopes to make the process easier with the help of its sixth annual Career Week starting Monday.

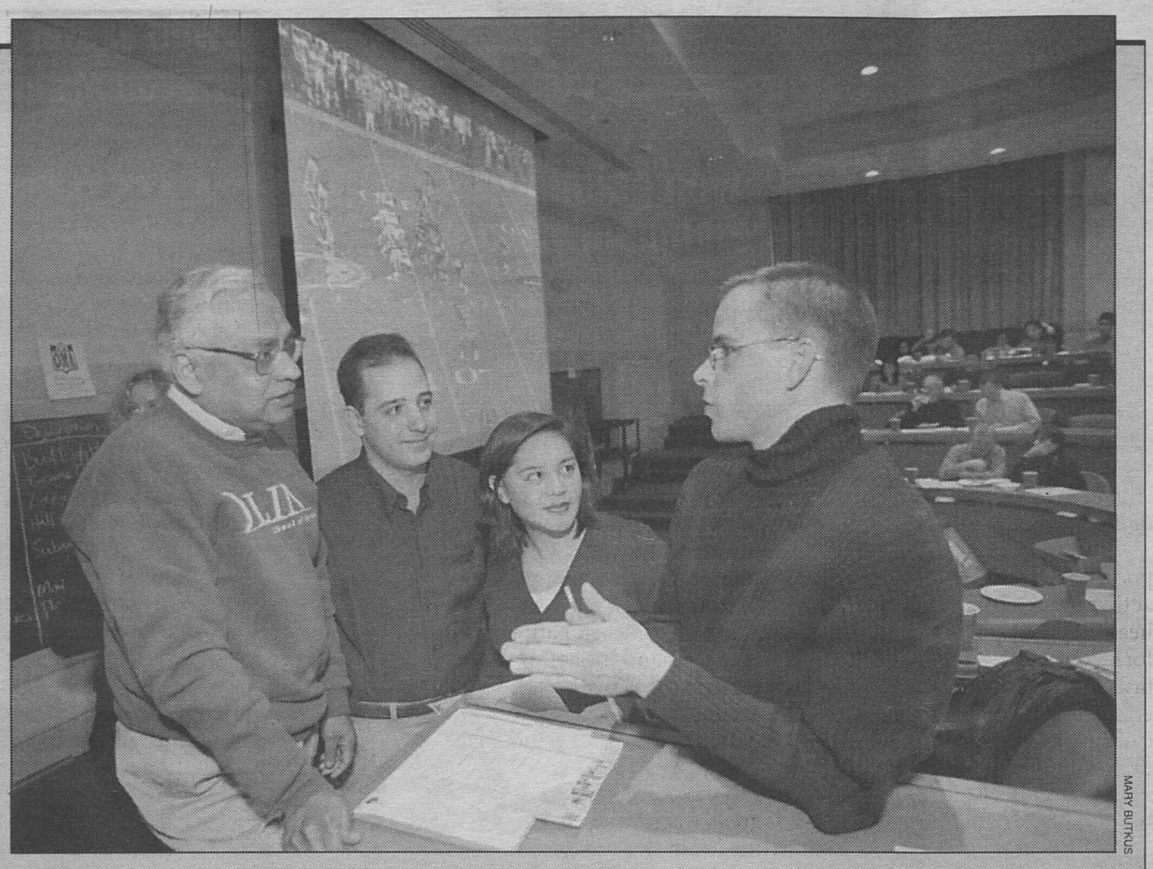
Career Week consists of a variety of panels and programs aimed at helping students explore careers. This year's theme is "Exploring Options and Opportunities," and the primary focus will be panels of professionals with a variety of backgrounds.

"We have a number of panelists coming from many different career fields," said Aimee Wittman, career development specialist at the Career Center. "The program will enable students to explore numerous careers and look at new job opportunities they may not have known existed."

The panelists work in fields as varied as the environment, public relations, technology, the arts, health care, law, nonprofit and the corporate sector.

"The panelists will discuss what they do, how they got started and how to get a job in their field,"

See **Career,** Page 5



MARY BUTKUS

Super day for advertising (and football) buffs Analyzing advertisements during the Olin School of Business' first "Super Advertising Bowl" on Sunday, are (from left) Ambar Rao, Fossett Distinguished Professor of Marketing; Adam Schrier, MBA '02, event chairperson; Anna Maria Sebastian, MBA '02, event planning committee; and Ron Crooks, managing director and chief creative officer of St. Louis-based ad agency D'Arcy Masius Benton & Bowles. Crooks and Arlo Oviatt, senior vice president and group creative director for the agency, led some 100 attendees — MBA students and staff from the Olin School and their guests — in pre-game and halftime discussions of Super Bowl advertising. Crooks stressed that, to be great, Super Bowl ads had to be memorable and must indivisibly link the product and the ad. Attendees used "score cards" to choose their personal favorites and rate ads' business effectiveness. Ads for Anheuser-Busch, Pepsi and E*Trade were winners, and ones for Accenture and monster.com were losers. Students also enjoyed the game, shown on several big-screen televisions; super party food and drink; and attractive prizes from local merchants. The event was presented by the Olin Marketing Association and held in a classroom and adjoining lounge in Simon Hall.

Renowned journalists to address how the Internet is changing sports coverage

By Jessica N. Roberts

Over the past decade, the face of sports journalism has changed with the addition of the Internet. No longer do people look solely to print publications or television for sports scores, features or athlete information.

Sports Web sites now offer an alternative, providing up-to-the-minute coverage. Today, major sports magazines like Sports Illustrated and ESPN The Magazine have teamed with television networks to create high-profile Web sites. Other sports periodicals have followed, creating elaborate Web sites to complement their publications.

As these magazines pioneer this new brand of time-sensitive sports journalism, what constitutes good reporting is being tested.

University College is hosting a panel discussion from 6-7:30 p.m. Monday in McDonnell Hall, Room 162, that will address these changes in sports journalism. Moderator Michael MacCambridge, adjunct instructor at University College, author of "The Franchise: A History of Sports Illustrated," and editor and contributing writer of "ESPN SportsCentury," will lead a panel of renowned sports journalists:

• John Walsh, executive editor, ESPN;

• John Rawlings, editor, The Sporting News;

• Royce Webb, editor, sportsjones.com;

• Alexander Wolff, senior writer, Sports Illustrated;

• Dennis Dodd, senior writer, CBS.Sportsline.com.

Probable discussion topics include:

• What are the implications of the headlong rush for Internet domination?

• How does the Internet affect traditional print coverage?

• Where will the spending on Internet sites stop?

• What will be the ultimate impact of this high-stakes game?

The panel discussion is sponsored by University College, The Career Center, the Washington University Department of Athletics, the Office of Student Activities, and Student Life.

Panel discussion

WHO: Moderator Michael MacCambridge, adjunct instructor at University College, along with a panel of renowned sports journalists

WHAT: Panel discussion addressing how the Internet is changing sports journalism

WHERE: McDonnell Hall, Room 162

WHEN: 6-7:30 p.m. Monday

Ford Foundation president to discuss new directions in philanthropy

By Barbara Rea

Susan V. Berresford, president of the Ford Foundation, will discuss "Philanthropy in the 21st Century" at 4 p.m. Thursday in Brown Hall, Room 100.

The talk, part of the George Warren Brown School of Social Work's 2001 Spring Lecture Series, is free and open to the public.

Berresford: To talk at Brown Hall

Berresford has headed the Ford Foundation since 1996 and is the first woman to hold that position. She has been with the foundation for more than 30 years, joining the staff in 1970 as a project assistant in the national affairs division.

Berresford has served the organization in a number of capacities. In 1980 she was named officer in charge of the foundation's women's programs. A year later, Berresford became vice president for the foundation's U.S. and international affairs programs, and in 1989 she was named vice president of the program division in charge of worldwide programming. Prior to her election as president, she served as executive vice president and chief operating officer.

After graduating from Radcliffe College in 1965, Berresford joined the Neighborhood Youth Corps, then worked for Manpower Career Development Agency.

She has served on a number of boards, including the Council on Foundations, the Hermine and Robert Popper Foundation and the Chase Manhattan Corporation. In addition, Berresford has served as a member of the advisory committee for the Center for Global Partnership.

With assets totaling more than $14 billion, the Ford Foundation is in the top tier of U.S. philanthropic organizations. Founded in 1936 by Henry and Edsel Ford, it now operates with more than 500 employees staffing offices in 15 countries.

Social work school's spring lecture series

George Warren Brown School of Social Work's spring lecture series spans social issues from the plight of refugees to the role of philanthropy to the latest developments in gene therapy.

The series kicked off Jan. 10 with a lecture by St. Louis Public Schools Superintendent Cleveland Hammonds on the history and future of the city school system. It will continue Thursday with a lecture by Susan V. Berresford, president of the Ford Foundation, on "Philanthropy in the 21st Century," at 4 p.m. in Brown Hall Room 100.

Other lectures in the series, which is free and open to the public, are at:

• 1:10 p.m. Thursday — Beverlee Bruce, program director for the Social Science Research Council in New York, on "Forced Migration and Human Rights: United Nations' Response to the Plight of Refugee Women and Children," Brown Lounge.

• 1:10 p.m. April 19 — University alumnus Michael E. Willis, FAIA, of Michael Willis Architects, on "Architecture and Its Role in the Transfiguration of Social Institutions," Brown Lounge.

• 1:10 p.m. April 26 — George B. Johnson, Ph.D., professor of biology in Arts & Sciences, on "Gene Therapy on Trial," Brown Lounge.

For more information, call 935-4909.

Ford Foundation sparks progress in social work

By Ann Nicholson

Support for research at the George Warren Brown School of Social Work's Center for Social Development is a prime example of the Ford Foundation's commitment to "incubating ideas" with long-term sustainability. The center is conducting groundbreaking work in asset building, helping the poor break the cycle of poverty by making personal savings possible.

Michael W. Sherraden, Ph.D., the Benjamin E. Youngdahl Professor of Social Development and director of the Center for Social Development, credits the leadership of Ford Foundation President Susan V. Berresford and University alumnus Melvin L. Oliver, a foundation vice president, for major in-roads in policies that assist the poor in accumulating savings and assets. Under their leadership, community development and asset building have become key areas of the foundation's focus.

"The Ford Foundation is doing pioneering work in this area, as it identifies and tests out innovations in asset building that might have broader implications for state and federal policy," Sherraden said. "The foundation's significant funding for the Downpayments on the American Dream Policy Demonstration is a prime example of such vitally needed support."

The ongoing American Dream project is a large-scale test of an idea originally conceived by Sherraden to create matched savings accounts, known as Individual Development Accounts (IDAs), for low-income Americans. The accounts provide a means and an incentive for the poor to save a portion of their earnings, which is then matched by financial institutions, foundations, churches and state and local governments. An educational component also assists the poor with savings strategies.

"Professor Michael Sherraden's was an intuitively appealing idea, especially in an environment that discourages welfare dependency and emphasizes education and entrepreneurial activities," Berresford wrote in a recent foundation column. "It is not surprising that IDAs have taken off."

> "The Ford Foundation is doing pioneering work in this area, as it identifies and tests out innovations in asset building that might have broader implications for state and federal policy."
>
> Michael W. Sherraden

The Ford Foundation is a leader among a broad coalition of major foundations supporting the American Dream effort to help low-income families use IDA accounts to save money for major expenditures — a home, college education for their children or a new business. Since 1996, a series of Ford grants totaling close to $5 million have supported the project, which is run by the Corporation for Enterprise Development in Washington, D.C. Sherraden and the Center for Social Development are conducting research on the project.

Currently, 2,378 people at 14 sites throughout the country are participating in IDA programs. Analysis of initial project data shows that participants saved an average of $25 per month, which was often matched 2 to 1. Although most of the participants had yet to make a withdrawal, those who did used the savings toward the purchase of assets previously not available to them, such as homes or home repairs, education, retirement investment or job training.

"The data clearly demonstrates that the poor can save and accumulate assets," Sherraden said. "Interestingly, amounts of savings have varied little depending on income, and the very poor have saved at proportionally much higher rates than others. While additional analysis is needed to determine how, why and for what the poor save, the project's findings ultimately may lead to a major shift in savings policies for the poor."

For more information on Sherraden's work, visit the Center for Social Development home page at: http://www.gwbssw.wustl.edu/~csd/.

Record

Washington University community news

Editor Kevin M. Kiley
Assistant Editor Jessica N. Roberts
Assistant Editor Neil Schoenherr
Associate Vice Chancellor Judith Jasper Leicht
Acting Executive Editor Donna Kettenbach
Medical News Editor Diane Duke Williams
Production Carl Jacobs

News & Comments
(314) 935-6603
Campus Box 1070
kevin_kiley@aismail.wustl.edu

Medical News
(314) 286-0119
Campus Box 8508
shepherda@msnotes.wustl.edu

Record (USPS 600-430; ISSN 1043-0520), Volume 25, Number 17/Feb. 2, 2001. Published for the faculty, staff and friends of Washington University. Produced weekly during the school year, except school holidays, and monthly during June, July and August by the Office of Public Affairs, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130. Periodicals postage paid at St. Louis, MO.

Where to send address changes, corrections:

Postmaster and non-employees Record, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130.

Employees Office of Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130.

Washington University in St. Louis

Medical School Update

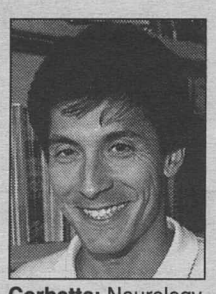
After stroke, brain images show language recovery

By Gila Reckess

School of Medicine researchers have imaged language areas of the brain during recovery from stroke. This glimpse into the brain's natural rehabilitation pattern could lead to a better understanding of normal language processes and help optimize stroke therapy.

The study was reported in a recent issue of the journal Neurology.

Each year, 750,000 Americans suffer a temporary loss of blood flow to the brain, known as an ischemic stroke. Patients often experience problems with speech and language, particularly after a stroke to the left side of the brain. Remarkably, many recover the majority of their language abilities within six to 12 months.



Corbetta: Neurology researcher

Although physical, occupational and speech therapies play key roles in recovery, scientists do not yet understand how the brain recovers and how different therapies influence rehabilitation.

"We use many forms of therapy, but most of them are based on good common sense rather than on real, scientific evidence," said Maurizio Corbetta, M.D., assistant professor of neurology and the leader of the study.

Howard Rosen, M.D., previous fellow in neurology at the medical school and current assistant professor of neurology at the University of California at San Francisco, was first author of the study.

When stroke patients regain some of their language abilities, their behavioral improvements may result from either of two mechanisms. The damaged area might recover its original functions, or a different part of the brain might take over and compensate for the impaired region. Corbetta and his colleagues set out to distinguish between these two possibilities.

"We were interested in imaging areas potentially involved in language recovery to examine the underlying mechanisms," said Corbetta, also assistant professor of radiology and of anatomy and neurobiology. "We also would like to find markers to distinguish between successful and unsuccessful recovery."

Recent advances in imaging techniques provide researchers with a window into the brain. To date, imaging studies of language recovery after stroke have examined patients on the basis of clinical symptoms. Scientists measure brain activity in patients with a specific language deficit in the hope of correlating that symptom with decreased activity in a particular area of the brain or capturing an image of how the brain reorganizes itself after injury.

But there is a great deal of variability in how clinical symptoms relate to lesion location and how the brain recovers after different lesions. From these methods alone, it has been difficult to determine a relationship between brain recovery and symptoms.

For this reason, Corbetta and his colleagues began at the other side of the equation. They examined the long-term effects of damage to a well-defined region called the left inferior frontal gyrus — located on the left side, toward the front of the brain — known to be critical for language performance.

Steven E. Petersen, Ph.D., professor of anatomy and neurobiology, neurology, radiology, psychology and associate professor of neurological surgery and biomedical engineering, and his colleagues at the medical school had previously found that this region is very active in healthy volunteers during slightly challenging language tasks. For example, participants were asked to form a word that starts with "cou." When they think of a response, such as "cousin," this frontal area of the brain is active. However, the area does not appear to be involved when healthy individuals perform easy, fairly automatic tasks like reading words.

By screening 350 stroke patients, Corbetta and colleagues identified six people whose damage was localized around this particular region. They tested these patients on the same language tasks used with healthy individuals.

All six patients performed poorly on the same tasks that activated this region in eight healthy participants but performed normally on the easier task of reading words. "This is a good behavioral control," Corbetta said. "It confirms that this region is necessary for normal language performance, specifically on the more demanding verbal task."

The patients appeared to have a recovery plateau roughly six months after their stroke. At this point, the researchers studied the relationship between brain activity and verbal performance using positron emission tomography (PET) and functional magnetic resonance imaging (fMRI). These techniques allowed them to watch the pattern of brain activity as each patient performed these language tasks.

Surprisingly, PET images revealed that the area on the right side of the brain corresponding to the one damaged on the left side was significantly active during the difficult language tasks. In contrast, this region became minimally active only in the healthy participants.

When using PET, researchers must average the results from all the subjects in a group. In order to examine changes in brain activation in each patient, Corbetta and his colleagues used fMRI. This is the first published account of changes in individual patients after stroke-induced frontal lobe damage.

Again, the six patients had greater activity in the right side of the brain than the healthy participants. However, the level of activation on the right side failed to correlate with the subjects' verbal performance.

In two patients, the area surrounding the damaged part of the brain on the left side also was active during the tasks. These patients had the best clinical recovery of language performance and the smallest lesions.

From these findings, the researchers suggest there might be two different mechanisms that mediate functional recovery of language. Several factors could determine which mechanism is implemented by each individual patient, including the extent of the brain damage.

First, areas in the right side of the brain that correspond to the damaged area on the left side appear to contribute to language recovery. After complete destruction of the left language area, the right side is active in all patients who have some degree of clinical recovery.

However, recovery appears to be better when parts of the left language area resume their role, as was found in the two patients with smaller lesions. This could indicate a second mechanism of recovery.

Corbetta and his colleagues plan to examine additional patients immediately after a stroke and again after six months, when spontaneous recovery is fairly complete. These long-term data should reveal more about how the brain recovers, identify factors that predict recovery and clarify the brain's own rehabilitation technique.

Research fellowship program seeks applicants

The School of Medicine has received a new grant to support students taking a year off while in medical school to develop skills in clinical research.

Applications now are being accepted for the first round of participants in the Doris Duke Clinical Research Fellowship program.

The fellowship is the first in the United States to focus exclusively on clinical research at academic medical centers.

The fellowship program expands the offerings of the medical school's existing M.A./M.D. program, which currently allows students to gain experience in scientific investigation in a mentored research environment — traditionally in basic research. Students now may gain comparable experience in clinical research, working closely with a mentor, participating in lab meetings, journal clubs and seminars.

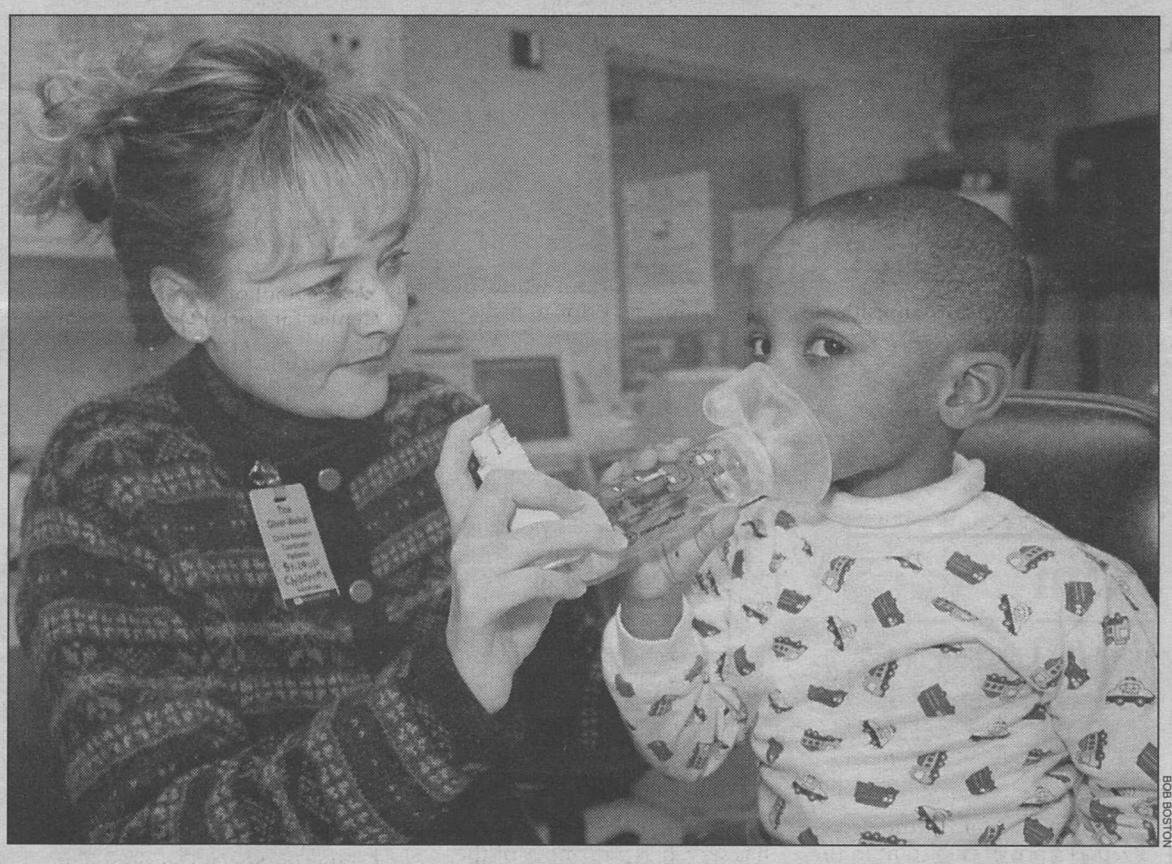
In addition to active clinical research, each fellow will be expected to enroll in two core courses of the Master of Science in Clinical Investigation Program, for which tuition will be waived.

Each fellow will receive a stipend of $20,000 and will begin writing a thesis by the end of the research year. In addition to the stipend, fellows will receive a book allowance of $250 per year and a $1,500 travel allowance for one seminar or professional meeting. Modest financial support also is available for the mentor and for research supplies.

The University is one of seven medical schools nationwide to receive a $625,000 award for the fellowships. The mission of the Doris Duke Charitable Foundation is to improve the quality of peoples' lives by nurturing the arts, protecting and restoring the environment, seeking cures for diseases, and helping to protect children from abuse and neglect.

"Statistics indicate that the relative pool of young physician-scientists interested in pursuing clinical research careers has been declining over the years," said Joan E. Spero, president of the foundation. "We are pleased to sponsor a program that encourages talented medical students to explore careers in clinical research."

Applications and proposals for the fellowships are due March 1. Program Director Daniel P. Schuster, M.D., will interview applicants to discuss research interests and assist in the selection of a mentor. The fellowships are scheduled to begin between July and September. For more information, contact Teji Rakhra-Burris at 747-4614.



BOB BOSTON

Tina Oliver-Welker, research patient coordinator in pediatrics, shows Josh Pickett how to use an inhaler. A new study called Prevention of Early Asthma in Kids will test the effectiveness of a medication in preventing chronic asthma in children.

Asthma prevention study needs young children

By Diane Duke Williams

The School of Medicine is participating in a national study to determine if childhood asthma can be prevented.

The study, called Prevention of Early Asthma in Kids (PEAK), will look at whether treating children with wheezing early in life can prevent the development of asthma. A $5.4 million grant from the National Institutes of Health is funding the three-year study.

"We want to find children who've had wheezing episodes over the past year and see if we can keep them from getting the disease," said Robert C. Strunk, M.D., professor of pediatrics and principal investigator of the Washington University School of Medicine clinical center.

Five medical centers nationwide will enroll 280 children 2 and 3 years old. In the St. Louis area, researchers will recruit 56 children, who will be evaluated at St. Louis Children's Hospital.

To qualify for the study, children must have had at least four wheezing episodes in the past year but not be taking regular medications or treatments. They also must have a parent with a history of asthma, have eczema, have wheezing unrelated to colds or have positive allergy tests to foods or inhalants.

The children in the study will be divided randomly into two groups. Those in the first group will inhale a steroid medication twice daily; those in the second group will inhale an inactive substance.

The study will determine whether the steroid medication prevents asthma in high-risk children. To eliminate the possibility of distorting these results, children, parents and researchers will not know which children belong to which group.

Study participants will take the medication for two years and be followed for an additional year. Each child's progress will be monitored during 12 visits that will include physical examinations, blood tests, breathing tests and allergy skin tests. Medical care received in the study and asthma medications are free. Patients will receive $25 for each study visit.

Asthma is a chronic disease caused by inflammation and swelling of the small airways in the lungs. When the airways become swollen and congested with mucus, muscle spasms around the airways block the normal flow of air, causing patients to cough and wheeze and have difficulty breathing.

Asthma is the most common chronic childhood disease in the United States. According to the National Heart, Lung, and Blood Institute, asthma rates in children younger than 5 have increased more than 160 percent in the past 15 years. Asthma hospitalization rates are highest among children younger than 4 and have increased more than 28 percent in the past 15 years.

Fifty percent of children wheeze before age 6. Of that 50 percent, Strunk said, about a third develop asthma.

To enroll in the study or for more information, please call 286-1173 or 1-866-841-2273.

University Events

'Music of Beethoven' presented by Haber and Carlin

By Liam Otten

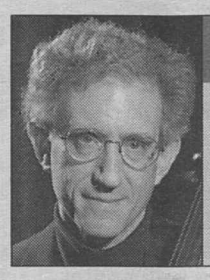
Internationally renowned cellist Michael Haber will join the University's own Seth Carlin, professor of music in Arts & Sciences and director of the piano program, for "Music of Beethoven," a special one-night-only performance.

Sponsored by the university's Edison Theatre OVATIONS! Series, the concert of Beethoven sonatas will begin at 8 p.m. Saturday at Holmes Lounge in Ridgley Hall.

Haber, a former member of the United States Army Band and the Cleveland Orchestra under George Szell, has performed with such noted ensembles as the Casals Festival Orchestra under Pablo Casals, the Orpheus Chamber Orchestra and the Mostly Mozart Festival Orchestra at Lincoln Center. His chamber music activities include recording as the cellist of The Composers Quartet and of The Gabrielli Trio as well as numerous performances at the Marlboro Festival in Vermont.

The London Times has praised Haber as a "romantic cellist," and the New York Times has noted the "lyricism and perfection" of his playing. Critic Donald Rosenberg, writing in the Cleveland Plain Dealer, lauded him as "a superb musician."

Raised in New York City; Casablanca, Morocco; and Geneva, Switzerland, Haber graduated Phi Beta Kappa from Brandeis University and did graduate work at Harvard's Russian Studies Institute. Over the years he has taught at some of the country's finest music schools, including Oberlin College in Ohio, the New England Conservatory of Music in Boston, Indiana University — Bloomington and the Aspen Music School in Colorado. He has been a professor of music at the University of Akron's School of Music since 1983.



"Music of Beethoven"

WHO: Michael Haber (left) and Seth Carlin (right)

WHERE: Holmes Lounge in Ridgley Hall

WHEN: 8 p.m. Saturday

TICKETS: $15 at Edison Theatre

Carlin has performed as a soloist with such orchestras as the Saint Louis Symphony Orchestra and the Boston Pops and has worked with conductors such as Leonard Slatkin and Roger Norrington. He has appeared in recital with musicians such as Pinchas Zukerman, Anner Bylsma and Malcolm Bilson, and also at the Festival of Two Worlds in Spoleto, Italy; the Newport Music Festival in Rhode Island; Lincoln Center's "Great Performers" series; and New York's Merkin Hall series "On Original Instruments." In 1991-92, Carlin performed the complete Schubert fortepiano sonatas in New York City, and the concerts were broadcast nationally on National Public Radio. In 1989, he was one of only two recitalists to receive a full grant from the National Endowment for the Arts.

Carlin graduated cum laude from Harvard University with a bachelor's degree in music, later earning a master's in piano from the Julliard School. He received his Licence de Concert from the Ecole Normale de Musique de Paris and has studied piano with Rosina Lhevinne, Jules Gentil and Morton Estrin, as well as interpretation with Wilhelm Kempff.

Tickets are $15 and are available at the Edison Theatre Box Office, 935-6543, or through MetroTix, 534-1111. The performance is made possible with support from the Missouri Arts Council, a state agency; and the Regional Arts Commission, St. Louis.

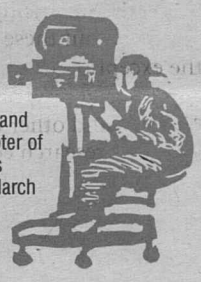
"Caught by Politics" • Kip Thorne • Computer-generated Holograms • Sports Journalism

"University Events" lists a portion of the activities taking place at Washington University Feb. 2-14. Visit the Web for expanded calendars for the School of Medicine (medschool.wustl.edu/events/) and the Hilltop Campus (cf6000.wustl.edu/calendar/events/).

Exhibitions

"Caught By Politics: Art of the 1930s and 1940s." The Gallery of Art. Through March 18. Steinberg Hall Aud. 935-4523.

"Farewell to Bosnia." Gilles Peress, photographer. The Gallery of Art and the St. Louis Chapter of the United Nations Assoc. Through March 18. Steinberg Hall Aud. 935-4523.



Film

Wednesday, Feb. 14

6 p.m. Near Eastern Film Series. "Three Days and a Child." Room 219, Ridgley Hall. 935-5156

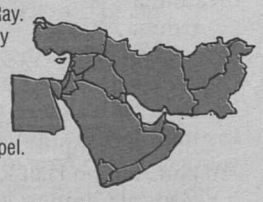
Lectures

Friday, Feb. 2

11 a.m. Mathematics analysis seminar. "Modeling PDE Problems Through Spaces of Homogenous Type." Hugo Aimar, prof. of mathematics, Universidad Nacional del Litoral-Conicet., Argentina. Room 199 Cupples I Hall. 935-6760.

Noon. Cell biology and physiology seminar. "Rab Guanine Nucleotide Exchange Factors: Insights Into Ras-activated Endocytosis." Bruce Horazdovsky, asst. prof. of biochemstry, U. of Texas Southwestern Medical Center. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

6 and 8:30 p.m. Travel Lecture Series. "Lost Worlds of the Middle East." Rick Ray. Sponsored by Washington University Assoc. Cost: $5. Graham Chapel. 935-5212.



Monday, Feb. 5

Noon. Lung biology conference. "Structure-function Analysis of the Stat1 Transcription Factor: Making Epithelial Genes Twitch." Yong Zhang, research assoc. in pulmonary and critical care medicine. Room 801 Clinical Sciences Research Bldg. 362-8983.

Noon-1 p.m. Molecular biology and pharmacology seminar. "Lymphocytes, Apoptosis, and Caspase Inhibitors – a Matter of Life and Death in Sepsis." Richard S. Hotchkiss, assoc. prof. of anesthesiology, of medicine, and of surgery. Room 3907 South Bldg. 362-7056.

Noon. Neuroscience seminar. "Neural Mechanisms of Mammalian Pheromone Recognition." Tim Holy, molecular and cellular biology dept., Harvard U. Room 928 McDonnell Medical Sciences Bldg. 362-7043.

4 p.m. Biology seminar. "The Evolution of Three Biochemical Cycles on Earth: Carbon, Nitrogen and Oxygen." Paul Falkowski, environmental biophysics and molecular ecology program, Inst. of Marine and Coastal Sciences and geology dept., Rutgers U., N.J. Room 322 Rebstock Hall. 935-6862.

4 p.m. Condensed matter/materials and biological physics seminar. "Creating the Holodeck (in Miniature): Computer-generated Holograms With Corporeality." Gabriel Spalding, physics dept., Illinois Wesleyan U., Bloomington. Room 241 Compton Hall (coffee 3:45 p.m.). 935-6276.

4 p.m. Immunology Research Seminar Series. "Regulation of B Lymphocytes by Innate Immunity." Michael C. Carroll, Harvard Medical School, The Center for Blood Research. Eric P. Newman Education Center. 362-2763.

7 p.m. Architecture Monday Night Lecture Series. "Contemporary Japanese Architecture." Mira Locher, visiting asst. prof. of architecture. Steinberg Hall Aud. (reception 6:30 p.m., Givens Hall). 935-6293.

Tuesday, Feb. 6

Noon. Molecular Microbiology and Microbial Pathogenesis Seminar Series. "Attenuation of Influenza Viruses by Altering the Viral Interferon Antagonist." Peter Palese, prof. and chair of microbiology, Mount Sinai School of Medicine, N.Y. Cori Aud., 4565 McKinley Ave. 747-2132.

12:05-12:55 p.m. Program in Physical Therapy research seminar. "Joint Kinematics Alter Sequential Reaching Deficits in People With Parkinson's Disease." Valerie Kelly, doctoral candidate in movement science. Classroom B114, 4444 Forest Park Blvd. 286-1404.

4 p.m. Bioorganic Chemistry Seminar Series. "Mass Spectrometry for Biological Interactions and Reactions." Michael L. Gross, prof. of chemistry. Room 3907 South Bldg. 362-3363.

4 p.m. Chemistry seminar. "New Applications of the Ireland Claisen Rearrangement in Natural Product Synthesis." Matt McIntosh, chemistry dept., U. of Ark. Room 311 McMillen Lab (coffee 3:30 p.m.). 935-6530.

Wednesday, Feb. 7

11 a.m. Assembly Series. Arthur Holly Compton Memorial Lecture. "Spacetime Warps and the Quantum: A Glimpse of the Future." Kip S. Thorne, astrophysicist, The Feynman Prof. of Theoretical Physics, Calif. Inst. of Technology, and co-founder, Laser Interferometer Gravitational Wave Observatory (LIGO) Project. Graham Chapel. 935-5285.

5:15 p.m. Mothers and Babies Research Center Conference. "Mutations of the Zona Pellucida Genes: Insights Into Fertilization." Tracy L. Rankin, post-doctoral fellowship, cellular and developmental biology laboratory, National Inst. of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, Bethesda, Md. Room 36, third floor south, St. Louis Children's Hosp. 747-0739.

Thursday, Feb. 8

11 a.m. Pulmonary and Critical Care Grand Rounds. "Novel Strategies for Chemoprophylaxis of Liver and Lung Disease in Alpha-1-antitrypsin Deficiency." David H. Perlmutter, prof. of cell biology and physiology, and the Donald Strominger Prof. of pediatrics. East Pavilion Aud., Barnes-Jewish Hosp. Bldg. 362-6904.

Noon-1 p.m. Genetics seminar. "Connections Between Nucleoporins, Inositol Signaling and mRNA Export." Susan R. Wente, assoc. prof. of cell biology and physiology. Room 823 McDonnell Medical Sciences Bldg. 362-7072.

1:10 p.m. School of Social Work Lecture Series. "Forced Migration and Human Rights: United Nations' Response to the Plight of Refugee Women and Children." Beverlee Bruce, program dir., Social Science Research Council, N.Y. Brown Lounge, Brown Hall. 935-4909.

4 p.m. Earth and planetary sciences colloquium. "Elemental and Isotopic Fractionation by Evaporation of Silicate Liquids: Theory, Experiments, and Application to the Thermal Evolution of CAIs." Frank M. Richter, Sewel L. Avery Distinguished Service Prof. of geophysical sciences, U. of Chicago. Room 361 McDonnell Hall. 935-5610.

4 p.m. Joint Center for East Asian Studies lecture. "The Well-behaved Appetite: Dieting, Products and Food Fads in Japan." Laura Miller, assoc. prof. of sociology and anthropology, Loyola U., Chicago. Room 331 Social Sciences and Business Bldg., U. of Mo., St. Louis. 935-4448.

4 p.m. School of Law's Inst. for Global Legal Studies lecture. "A World of Peace and Justice Under the Rule of Law: From Nuremberg to the International Criminal Court." Whitney Harris, member of prosecuting team of the International Military Tribunal at Nuremberg. Bryan Cave Moot Courtroom, Anheuser-Busch Hall. 935-7988.

4 p.m. School of Social Work Lecture Series. "Philanthropy in the 21st Century." Susan V. Berresford, pres., the Ford Foundation. Room 100 Brown Hall. 935-4909.

4:30 p.m. Mathematics colloquium. "Generalized Analytic Continuation." Bill Ross, prof. of mathematics, U. of Richmond, Va. Room 199 Cupples I Hall (tea 4 p.m., Room 200). 935-6760.

5 p.m. Vision Science Seminar Series. "Establishment of HSV Latent Infection." Todd Margolis, prof. of ophthalmology and dir., Francis I. Proctor Foundation, U. of Calif., San Francisco. East Pavilion Aud., Barnes-Jewish Hosp. Bldg. 362-5722.

7 p.m. Gallery of Art Lecture Series. "Exile Art and National Identities: Current Perspectives." Sabine Eckmann, curator, WU Gallery of Art. Steinberg Hall Aud. 935-4523.

Friday, Feb. 9

11 a.m. Mathematics seminar. "Formal Trigonometric Series and Cyclic Vectors for the Backward Shift." Bill Ross, prof. of mathematics, U. of Richmond, Va. Room 199 Cupples I Hall. 935-6760.

Noon. Cell biology and physiology seminar. "Diversity of GTPase Recognition by Cysteine-rich Domains." Sharon Campbell, assoc. prof. of biochemistry and biophysics, U. of N.C., Chapel Hill. Room 426 McDonnell Medical Sciences Bldg. 362-6040.

4 p.m. Anatomy and neurobiology seminar. "Mitochondrial Uncoupling Proteins as Regulators of Mitochondrial Metabolic Efficiency and Free Radical Production in the Brain." Laura L. Dugan, asst. prof. of anatomy and neurobiology, of medicine, and of neurology and neurological surgery. Room 928 McDonnell Medical Sciences Bldg. 362-7043.

Monday, Feb. 12

Noon. Cell biology and physiology seminar. "The Biosynthesis of Polysialic Acid, A Modulator of Cell-cell Interactions During Development." Karen J. Colley, assoc. prof. of biochemistry and molecular biology, U. of Ill. at Chicago College of Medicine. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

Noon. Lung biology conference. "Apical Polarity in Airway Epithelial Cells – Whaz Up?" Steven L. Brody, asst. prof. of medicine, pulmonary and critical care medicine div. Room 801 Clinical Sciences Research Bldg. 362-8983.

Noon-1 p.m. Work, Families, and Public Policy Brown Bag Seminar Series. "Compensating for Mistrust Among Kin." Margaret L. Brown, asst. prof. of anthropology. Room 300 Eliot Hall. 935-4918.

4 p.m. Immunology Research Seminar Series. "The Immunobiology of Pregnancy: New Insights Into Complement Regulation." Hector D. Molina-Vicenty, asst. prof. of medicine and of pathology. Eric P. Newman Education Center. 362-2763.

5:30 p.m. Radiology's Seventh Annual Hyman R. Senturia lecture. "Managing Change in Twenty-first Century Radiology Practice." James Thrall, prof. and chair, radiology dept., Massachusetts General Hosp., Boston. Scarpellino Aud., first floor, 510 S. Kingshighway Blvd. 362-2866.

Tuesday, Feb. 13

Noon. Molecular Microbiology and Microbial Pathogenesis Seminar Series. "*Legionella's* Strategy for Growth in Macrophages." Michele Swanson, asst. prof. of microbiology and immunology, U. of Mich. Medical School. Cori Aud., 4565 McKinley Ave. 286-2891.

Wednesday, Feb. 14

11 a.m. Assembly Series. Cultural Celebration and Asian Multicultural Council lecture. Gish Jen, author, will read/comment on her work. Graham Chapel. 935-5285.

5:15 p.m. Mothers and Babies Research Center conference. "The Womb With a View – Genetic Control of Mammalian Embryogenesis and Placental Angiogenesis." Jixiang Ding, instructor, Center for Advanced Biotechnology and Medicine (CAMB), Rutgers U., N.J. Room 36, third floor south, St. Louis Children's Hosp. 747-0739.

On Stage

Saturday, Feb. 10

8 p.m. OVATIONS! Series. "Music of Beethoven for Cello and Piano." Michael Haber, cellist, and Seth Carlin, pianist. Cost: $15 (call for discounts). Holmes Lounge, Ridgley Hall. 935-6543.

Worship

Friday, Feb. 2

11:15 a.m. Catholic Mass. Catholic Student Center, 6352 Forsyth Blvd. 935-9191.

1:10 p.m. Muslim Friday prayers. Includes sermon and prayer service. Lambert Lounge, Mallinckrodt Student Center. 935-3543.

Friday, Feb. 9

11:15 a.m. Catholic Mass. Catholic Student Center, 6352 Forsyth Blvd. 935-9191.

1:10 p.m. Muslim Friday prayers. Includes sermon and prayer service. Lambert Lounge, Mallinckrodt Student Center. 935-3543.

And more...

Friday, Feb. 2

8 a.m. Continuing Medical Education seminar. "Review of the 2000 San Antonio Breast Cancer Symposium." Cost: $95 (includes breakfast and lunch). Sponsored by The Alvin J. Siteman Cancer Center. The Ritz-Carlton Hotel, St. Louis. To register, call 362-6891.

Monday, Feb. 5

4 p.m. The Teaching Center workshop. "Trends in Distributed Learning – What are Other Universities Doing?" Liz Peterson, assoc. dir. for instructional technology, Teaching Center. Room 14 Eads Hall. To register, call 935-4252.

6 p.m. University College panel discussion. "How the Internet is Changing Sports Journalism." Five panelists representing ESPN, The Sporting News, sportsjones.com, Sports Illustrated and CBS.Sportsline.com. Michael MacCambridge, moderator and adjunct instructor in University College. Room 162 McDonnell Hall. 935-4320.

Thursday, Feb. 8

8 a.m. STD/HIV course. "Laboratory Methods." (Thursdays through March 1.) Cost: $60. Distance Learning Instructional Technology Center, U. of Mo., St. Louis. To register, call 747-0294.

Saturday, Feb. 10

7:30 a.m. Continuing Medical Education seminar. "Asthma and Leukotrienes." Presented by allergy and immunology div. Cost: $75 (includes breakfast and lunch). Eric P. Newman Education Center. 362-6891.

Sports

Men's hoops splits pair

The men's basketball team saw its seven-game winning streak come to an end with a 66-56 home loss to the University of Rochester on Jan. 26. Rochester led from start to finish as the Bears shot just 37 percent from the field. WU got as close at 55-50 with 5:08 remaining but couldn't pull out a comeback win. Senior Chris Alexander led the Bears with 15 points, Ryan Patton had 10; and Jarriot Rook had eight points, six rebounds and four blocks.

The Bears immediately started a new winning streak and improved to 16-2 Sunday by rolling over Case Western Reserve University, 101-56, in the Field House. The Bears came out slowly against Case and led by three midway through the first half. But a 22-6 run then gave WU a 44-25 lead en route to a 50-32 halftime edge, and Case would get no closer than 16 points down in the second half. The Bears went over the century mark for the third time this season by hitting 53 percent of their shots and seven-of-15 shooting from three-point range. Rook led all scorers with 25 points and added a game-high five blocks. Alexander scored 14, Joel Parrott had 12; and Matt Tabash had 11 points, four assists and three steals. Patton had nine points and a season-high 11 assists, and Chris Jeffries had nine points and a career-high 11 rebounds.

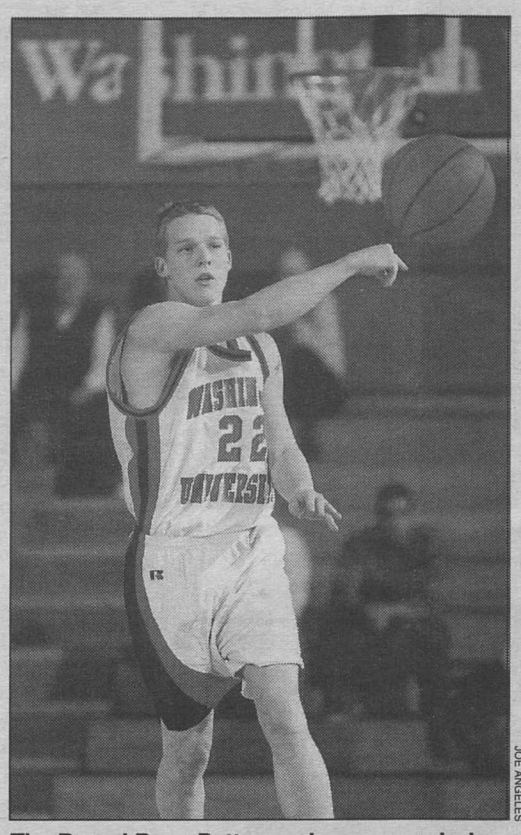
Women's basketball wins two

The women's basketball team began its weekend with a convincing 71-42 win over Rochester on Jan. 26. Kristi Eller hit a three-pointer six minutes into the contest to give the Bears a lead they would never relinquish. WU then went on a 29-6 run to end the half up 39-14. The Bears cruised in the second half, as 17 players saw action and 11 scored. Jennifer Rudis collected a game-high 11 points, Sara Ettner had 10; and Tasha Rodgers had nine points, 10 boards, six assists and five steals. The Bears held Rochester to just 32 percent shooting.

Sunday's game against Case Western Reserve played out much like that Rochester win, as the Bears trailed early but took a commanding lead - 42-24 - by halftime. The Bears did it with defense, holding the Spartans to just 21 percent shooting in the first half and 33 percent for the game - extending WU's streak of holding opponents under 50 percent shooting to 72 games.

Sunday was also a day of personal highlights - Rodgers scored 13 to vault into third place all-time at the University in scoring with 1,368 career points. Also, Lindsey Merrill had 15 points, including a career-high nine free-throws, and Robin Lahargoue set career-highs in points (17) and rebounds (13).

The Bears are 8-0 in the University Athletic Association and 17-1 overall. WU has won 54 consecutive home games.



JOE ANGELES

The Bears' Ryan Patton makes a pass during a recent men's basketball game.

Swimming and diving come in second

The men's and women's swimming and diving teams captured identical finishes Jan. 26-27 at the WU Invitational. The men were second only to Division II Missouri-Rolla, and the women came short of D-II Nebraska-Omaha.

For the women, Lindsay Wilkinson was part of four first-place finishes and two seconds. The junior swam the first leg of the winning 200- and 400-yard medley relay teams and captured individual crowns in the 50-free (25.21) and 100-free (54.64).

On the men's side, diver Ryan Braun captured second-place finishes in both the 1-meter (377.05) and 3-meter (394.65). Matt Johnson took second place in the 200-yard freestyle (1:46.29)

Venus

Research indicates planet may have been wet

— from Page 1

paper "Water on Venus: New Insights from Tremolite Decomposition" in a recent issue of the journal Icarus.

"Ours is the first study that investigates hydrous mineral decomposition rates with applications to Venus," Johnson said. "We have shown that tremolite can withstand extreme temperatures and remain intact for billions of years. If we can go to Venus and find tremolite, or some other hydrous mineral, then we would have proof that Venus had water in its past."

> "If we can go to Venus and find tremolite, or some other hydrous mineral, then we would have proof that Venus had water in its past."
>
> NATASHA JOHNSON

Indirect evidence is found in its high deuterium/hydrogen (D/H) ratios. If the high D/H ratios are the result of lighter hydrogen (deuterium is a heavier form of hydrogen) escaping Venus' atmosphere to space, then it is possible that Venus had water in the past. But the D/H ratio of Venus varies relative to that of Earth, and comets and meteorites can also have high D/H ratios, so other evidence is needed.

Johnson and Fegley's research on the decomposition rate of tremolite shows that the evidence is in the rocks.

"We want to know if it is worth our time to go to Venus and look for minerals that have water in them," Johnson said. "When you go backpacking, you want to know where you are going and what you need to carry. These experiments are laying the foundation and saying, 'Hey, should we, or should we not, bring a parka?' Should we be looking for hydrous minerals on Venus, or is it a waste of time?"

Johnson and Fegley conducted over 200 experiments, heating samples of tremolite in laboratory furnaces at temperatures of up to 1,240 degrees Kelvin (about 1,770 degrees Fahrenheit) for as long as 20 months, periodically weighing them to document the amount and rate of decomposition.

Tremolite, an amphibole, and other hydrous minerals contain OH (hydroxyl groups) as part of a lattice holding these minerals together. Amphiboles are formed when lava and magma interact with water. In the case of tremolite, it is a metamorphic mineral generally found in dolomitic-type limestone. Amphiboles are thermodynamically unstable and, according to theory, should decompose rather quickly at high temperatures.

But Johnson and Fegley's experiments indicate that tremolite is much more stable than previously thought, and it would take about 4 billion years to decompose by half in conditions similar to Venus' surface.

"Diamonds are a good analogy for what is happening with tremolite," Johnson said. "Diamonds are unstable at the surface of the Earth; graphite is the stable form. But you don't see diamonds popping into little chunks of graphite on people's fingers."

If tremolite and other amphiboles formed on Venus at some point in the past, they should be detectable using infrared reflectance spectroscopy and other current technology.

The researchers also are measuring decomposition properties of other hydrous minerals. Surprisingly little is known about these minerals with the exception of those with commercial purposes like asbestos and other insulators.

"This research could give us some idea about the formation of our solar system, and has applications on Earth for investigating metamorphic regimes or subduction zones," Johnson said.

Ph.D. program

WU one of first three to begin initiative

— from Page 1

transferred to any area, not just to education."

The foundation notes that doctoral students need more creative opportunities for applying their learning in diverse careers. Practicums and internships to apply teaching and research skills in a variety of settings – cultural or civic institutions, government agencies, corporations or other kinds of colleges and schools – will broaden students' perspectives as well as test the transferability of their high-level learning.

To develop these opportunities, offices of career planning, Ph.D. departments and graduate schools must engage in a dramatically improved alliance to reach out invitingly to alumni and others in their region.

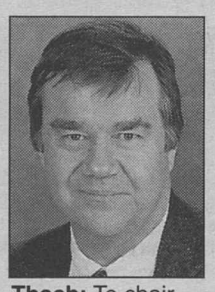
For nearly 10 years, the University has been fine-tuning and restructuring its Ph.D. programs to meet the changing job market.

"Advanced research is becoming increasingly appreciated in this growing information age," Thach said. To meet that need, the University developed its Summer Web Workshop for Ph.D. candidates to apply Internet skills to their teaching, including how to design, build and maintain Web sites. "We were delighted to find that these students could get good jobs in the corporate world doing Web page design," Thach said.

Also during the past decade, the University began reducing its number of Ph.D. candidates so they could support them all the way through degree. Money saved from supporting fewer students was used to develop new programs such as the Web workshop and others that foster interdisciplinary studies.

The rise of interdisciplinary studies has led to exciting and important scholarship, but the structure of departments and programs does not always allow it to flourish. Internal adjustments need to be made to enhance the scholarly possibilities, to bring together different parts of the University in powerful ways.

The Summer Dissertation Seminar, pioneered by Steven N. Zwicker, the Stanley Elkin Professor in the Humanities in Arts & Sciences, is a truly interdisciplinary program. Graduate students writing their dissertations on a variety of subjects that intersect the same time period are grouped together.



Thach: To chair Deans Council

For example, students writing about history, philosophy, art or French literature all in the 14th or 15th century might be grouped together in a seminar called the "early modern period." The students can absorb information and viewpoints from each other in these groups.

The Responsive Ph.D. will promote practices encouraging students to undertake more adventuresome scholarship, to develop their career options more boldly, and to achieve a versatile excellence as potential teachers in settings as varied as classrooms, laboratories, boardrooms and museums. It also seeks to attract more students of color to the Ph.D.

Careers for Ph.D.s have expanded into the federal government.

"The Office of Personnel Management came to us asking us to send our Ph.D. candidates to them," Thach said. The personnel management office is the old civil service office, and the University was one of two colleges chosen in this region. "We developed the Washington to Washington connection," Thach said.

Plus, the Presidential Management Intern Program, formerly just for master's degree students, is now open to Ph.D.s.

"Doctoral programs across the country have faced many challenges over the past 10 years," Thach said. "One was a job market prediction that there would be a high number of university openings, but which never materialized."

Indeed, a recent study says only about half of all doctoral students will become faculty, and most of those will not find jobs at research universities. The University of Wisconsin-Madison investigation also found that the training doctoral students receive is deficient in several areas; in practice, it does not prepare them for the jobs they take.

Of the 41 Ph.D.s in humanities the University bestowed last May, 20 had attained regular tenure track faculty positions, and seven had secured permanent jobs outside academia.

With Thach's help, the Woodrow Wilson Foundation's Responsive Ph.D. program will create exemplary doctoral education models that can be replicated nationally.

Career

Chance for students to explore new fields

— from Page 1

Wittman said. "They will offer suggestions and advice on the job-search process."

Skill-building seminars will be offered on resume writing, networking, interviewing, understanding benefits packages and the proper way to evaluate and negotiate an offer. Experts will be on hand Monday afternoon to critique resumes.

The event's capstone will be the networking reception from 6 to 8 p.m. Thursday evening. The reception, which will be attended by the panelists and other St. Louis-area professionals, will give students an opportunity to practice their networking skills in an informal setting and to interact with professionals in different fields.

"It should be a great event," Wittman said. "The workshops and the networking reception are always very well-attended, and this year we have an excellent lineup of panelists."

All events are free and open to all University students. For more information, call 935-5930.

Financial planning workshops conducted by HR, TIAA-CREF

Faculty and staff are invited to attend one of four free, comprehensive financial planning workshops conducted by the Office of Human Resources and TIAA-CREF.

The "Building Your Financial Future" workshops are appropriate for employees who have worked for a number of years, have begun to accumulate some assets – house, savings, retirement accounts – are interested in conducting a self-assessment of their financial condition, and are willing to devote some time to develop a plan for their financial future.

Topics will include a detailed examination of cash flow and net-worth statements, establishing goals, an overview of the most appropriate financial products to meet those goals, investment strategies, and protection of income and assets.

The workshops are:

- Medical Campus: Feb. 13: 9-10:30 a.m., Cori Auditorium;
- Hilltop Campus: Feb. 13: 3-4:30 p.m., Simon Hall Room 106;
- Medical Campus: Feb. 14: 11 a.m.-12:30 p.m., Cori Auditorium;
- West Campus: Feb. 15: 9:30-11:00 a.m., Library Conference Room A/B.

Space will be limited to keep the workshop as personalized as possible. To sign up, go to TIAA-CREF's Web site at www.tiaa-cref.org or call (800) 842-2005. Please remember to identify which session you wish to attend.

Buildings

Older structures get maintenance, upgrades

— from Page 1

plumbing, mechanical, electrical and decorating, with state-of-the-art technology connections — have transformed North and South Brookings, Brown, Duncker and Eads halls.

Elsewhere, major projects ($500,000 and above) in the historic buildings have included:

• The restoration of Holmes Lounge in Ridgley Hall, returning this space to its original Edwardian elegance;

• Complete renovations of the Rathskellar and the Career Center in Umrath Hall;

• Interior restoration work in the University's beloved Graham Chapel, including cleaning the stone and woodwork, lighting upgrades, new heating and air conditioning (HVAC), restrooms, an elevator and other accessibility improvements;

• A "major upgrade" in the Women's Building Formal Lounge and rooms behind it;

• HVAC upgrades in Wilson Hall and Francis Gymnasium.

The historic buildings, of course, are not the only ones undergoing renovations. In all, the University has invested some $45,687,100 in major improvements to existing buildings in just the last five years. From West Campus to Monsanto Hall to Wohl Center, the facilities planning and management department has been hard at work keeping campus buildings fit, trim and usable into the future.

Nor are these improvements limited to buildings. Members of the University community are keenly aware of major construction at the northeast corner of the Hilltop, where the University is spending $3.4 million to relocate and replace 7- and 10-foot Metropolitan Sewer District lines dating from the early 1900s. The sewer originally ran diagonally across the North Brookings parking lot and adjacent lawn, making construction impossible in these areas.

The new 12-foot-square line will run 1,600 feet along Millbrook Boulevard to Skinker Boulevard and then down Skinker, making it not only larger but accessible for service and repairs as the University begins developing a new campus for the School of Engineering and Applied Science.

Medical Campus involved too

Similar investments dot the Medical Campus, where the School of Medicine, working on its own and jointly with BJC Health System in the Washington University Medical Center (WUMC), undertakes millions of dollars of infrastructure improvements every year.

Among the most visible are components of what the school and the hospital system call the "public realm." Focused on building exteriors and especially on rights-of-way, public realm projects upgrade lighting, sidewalks, landscaping, maintenance and street signage around the campus.

WUMC crews — not city workmen — mow the grass along Kingshighway Boulevard. They plant, cultivate and irrigate flower beds and remove litter and trash. The project covers Kingshighway from Highway 40 to Forest Park Parkway and is expanding along Euclid Avenue and connecting streets.

The University has invested $3.4 million just in the first phase, covering the campus' "Tier 1" section between Kingshighway and Euclid, with another $1.1 million in WUMC spending planned there.

> **Like the Hilltop, the Medical Campus has its share of historic buildings, and the University has invested substantially in improving them.**

"Its purpose is to present a more pleasing appearance for patients and visitors, to enhance the environment as a place of healing," said Walter W. Davis Jr., assistant dean for facilities and chief facilities officer.

Rick Shaefer, director of design and construction on the Medical Campus, said the exterior improvements also help visitors find their way around. "They define the campus," he said — a useful function in a medical center comprising some 72 structures.

Like the Hilltop, this campus has its share of historic buildings, and the University has invested substantially in improving them. In just the last five years, these improvements include:

• Two new elevators and a new terra cotta roof in keeping with the architecture of McMillan Hospital, which dates from 1929 and houses the departments of otolaryngology, neurological surgery and ophthalmology, among others;

• The conversion of the former School of Dentistry building to a state-of-the-art biotechnology facility;

• Major upgrades to the power plant — new chillers, a boiler, utility metering, an elevator and major support equipment upgrades — totaling over $4 million;

• New piping and other renovations in the West Building (1913) at 507 S. Euclid Ave.;

• A 1997 addition to the Spencer T. Olin Residence Hall, first built in 1959, that extends its usefulness well into the new century;

• A new roof and extensive HVAC upgrades in the McDonnell Medical Sciences Building, 4564 McKinley Ave.

These expenditures also extend to sewers, most notably at the site of the new Ambulatory Care Center/Alvin J. Siteman Cancer Center building on Forest Park Parkway, where the University and BJC together rerouted and enlarged the system to accommodate the increased capacity needed. Also with BJC, the University invested $4 million on telecommunications, paying for new "duct banks" or conduits for communications cables. And the University spent $2.4 million in Phase 1 on a new electrical substation to serve the southwest corner of the campus.

On average, the medical school spends some $10 million each year on building and infrastructure upgrades costing $100,000 or more.

Some of these efforts on both campuses have targeted environmental improvement. On the Medical Campus, the University has established an aggressive energy conservation program. One of many conservation measures is the replacement of older light fixtures with "T-8" lamps and electronic ballasts as buildings undergo renovation and redecorating.

"These are the most efficient lighting fixtures available," said James T. Stueber, physical plant director at the medical school.

Other improvements include scheduled replacement of old motors with new variable-speed drive motors.

A similar building-by-building "green lights" effort is in place on the Hilltop Campus, and major HVAC upgrades have effected massive savings and environmental benefits by making buildings more efficient. Improving the efficiency of fume hoods in laboratories has helped as well.

Overall, Thaman noted, the University's annual purchased utilities costs have risen from $5 million in 1993 to $5.6 million in 2000, even with the addition of 10 new buildings in that time.

News Briefs

Did you know?

This sign's days are numbered.

St. Louis County highway officials are changing the name of Millbrook Boulevard to Forest Park Parkway in an effort to lessen confusion for motorists unfamiliar with the area and to provide continuity for Forest Park Parkway.

Forest Park Parkway is known as Millbrook Boulevard between Skinker Boulevard and Pershing Avenue.

The name Millbrook was coined from the names of Robert Brookings, a major University benefactor and driving force behind the school's development, and of David Millar, University City's mayor from 1933-37.

In honor of Millar and Brookings, the overpass over Millbrook will be renamed the Millbrook Pedestrian Overpass.

Both the St. Louis Board of Alderman and St. Louis County officials voted to change the street name, which should take effect in the next two months.

Teaching Center offers technology courses

The Teaching Center has announced the lineup for its spring workshops for faculty and teaching assistants. The courses, all held in Eads Hall, focus on technology training and the use of technology to enhance teaching.

A wide variety of courses will be offered, including classes on Web pages, PowerPoint, Web research, distributed learning, Windows and the Macintosh operating system.

The one- and two-day courses continue until March 28. For more information, visit the Teaching Center's Web page at http://artsci.wustl.edu/~teachcen/spring2001.html. If you want to attend, please notify Liz Peterson at teachcen@artsci.wustl.edu at least two days in advance.

Libraries offer UnCover Reveal service

UnCover Reveal, an online periodical database that indexes more than 18,000 English-language periodicals and offers more than 7 million articles, is now available from University Libraries.

This free service adds 5,000 new articles daily. It allows anyone with a wustl.edu e-mail address to receive tables of content from up to 50 of the latest periodicals specified in the user's profile. UnCover Reveal users can also store 25 keyword and author searches to be matched weekly.

For more information about UnCover Reveal and to set up a user profile, visit www.library.wustl.edu/databases/aboutuncfaq.html.

South 40 Fitness Center offers classes

The South 40 Fitness Center is offering faculty, staff and students 21 fitness classes this spring, including box aerobics, cardio cross-training, combo training, deep- and shallow-water exercise, hip-hop exercise, kickboxing, '80s and '90s dance hour, step interval, video classes and yoga. For more information, visit the South 40 Fitness Center in Wohl Student Center or call Martha Tillman, director of fitness, at 935-5023.

Employment

Use the World Wide Web to obtain complete job descriptions. Go to **https://hr.wustl.edu/ (Hilltop)** or **http://medicine.wustl.edu/wumshr (Medical)**.

Hilltop Campus

Information regarding positions may be obtained in the Office of Human Resources, Room 130, West Campus. If you are not a WU staff member, call 935-9836. Staff members call 935-5906.

Lab Technician III 000241

Research Technician 000256

Sr. Research Assistant/Jr. Research Associate 000297

Department Secretary 000323

Research Assistant 000341

General Services Assistant 000377

Word Processing Operator 010013

Research Assistant 010023

Manager, Business Development 010026

Administrative Secretary 010032

Instructional Technology Specialist 010033

Media Adviser 010060

Research Technician 010061

Senior Regional Director of Major Gifts 010068

Director of Admissions and Marketing 010069

MBA Records Assistant 010076

Associate Director of Research Communications 010107

Senior Medical Sciences Writer 010108

Mechanic (Bargaining Unit Employee) 010111-2

Assistant Director Donor Relations for Stewardship 010114

Receptionist/ Secretary 010121

Department Secretary 010123

Director of News & Information for Olin School of Business 010126

Appointment Coordinator 010128

Research Assistant/ Technician 010129

Deputized Police Officer 010131, 010133

Administrative Assistant (Assistant to Chair) 010139

Research Assistant 010140

Assistant Dean and Academic Coordinator 010142

Accounts Payable Rep Trainee 010144

Coordinator, Programming and All Campus Events 010146

Director 010149

Admissions Assistant 010150

Editor, Publications 010153

Financial Aid Coordinator 010155

Reference Assistant 010159

Director of Capital Projects 010160

Swing Shift Fireman 010161

Catalog Librarian 010166

Lan Engineer 010171

Deputized Police Officer 010172

Coordinator, Donor Relations 010174

Administrative Assistant 010175

Assistant Director of Career Services 010176

Assistant Facility Manager 010179

Technical Associate Programmer 010181

Director of MBA Student Services 010184

Career Development Specialist 010187

Research Assistant (cog. science/cog. neuroscience) 010188

Writer-Special Development Communications Projects (part time) 010189

Student Services Supervisor 010191

Administrative Assistant 010193

Planned Giving Officer 010194

Administrative Aide 010197

Career Services Information Coordinator 010198

Communications Technician I 010199

Director, Human Resources and Payroll 010201

Application Processor II 010202

Assistant Football Coach 010203

Contract and Grant Coordinator 010204

CFU Accounting Manager 010205

Library Technical Assistant (adaptive cataloging) 010207

Administrative Assistant 010209

Project Manager 010210

Accounts Payable Coordinator **010212**

Senior Prospect Researcher 010213

Director of Compensation and Appointments 010214

Awards Coordinator 010215

Deputy Director 010217

Customer Specialist/ Project Coordinator 010218

CFU Accountant (reporting) 010219

Network Engineer 010222

Medical Campus

This is a partial list of positions at the School of Medicine. Employees: Contact the medical school's Office of Human Resources at 362-7196. External candidates: Submit résumés to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, MO 63110, or call 362-7196.

Editorial Assistant 010676

Coordinator: Protocol 010769

Secretary III 010773

Coordinator: Education 010862

Payroll Assistant 010981

Space Management Coordinator 011009

Secretary III 011026

Secretary II (part time) 011058

Purchasing/Payroll Associate 011114

Secretary III (part time) 011116

Assistant Business Manager 011143

Secretary I 011150

Campus Watch

The following incidents were reported to University Police **Jan. 24 – 30.** Readers with information that could assist in investigating these incidents are urged to call **935-5555.** This information is provided as a public service to promote safety awareness and is available on the University Police Web site at **rescomp.wustl.edu/~wupd.**

Jan. 25

2:30 p.m. — A student reported that the rear taillight and fender of his Ford Explorer was damaged between 9 p.m. Jan. 24 and 1 a.m. Jan 25 while it was parked on the second level of the Millbrook garage.

Jan. 27

5:43 p.m. — A student reported that an unknown person entered his unlocked room and stole his Visa credit card between 1:50 p.m. and 4:25 p.m. Approximately $1,700 in unauthorized purchases were charged on the card.

Jan. 30

4:39 p.m. — University Police responded to 7060 Forsyth Blvd. to recover a stolen automobile. A student was at the scene and stated that his vehicle was last parked on Lot 31 where it was last seen Jan. 28. The vehicle was returned to its owner.

University Police also responded to eight additional reports of theft, three reports of vandalism and one report of an automobile accident.

Notables

Introducing new faculty members

The following are among the new faculty members on the Hilltop Campus. Others will be introduced periodically in this space.

Jennifer Prah Ruger, Ph.D., joins the George Warren Brown School of Social Work as an assistant professor of health economics. She earned a bachelor's degree from the University of California-Berkeley in 1988 and master's degrees in international relations from Tufts University in 1991 and in comparative social research from Oxford University in 1992. She also holds a doctorate in health policy from Harvard University in 1998. Ruger focuses on the areas of health economics, political economy and health policy, medical ethics, and health decision sciences. Most recently, she worked as a health economist and then as an assistant to the president at the World Bank.

Ted Ruger, J.D., joins the School of Law as an associate professor. He earned a bachelor's degree from Williams College in 1990 and a law degree from Harvard University Law School in 1995. He clerked for Judge Michael Boudin of the U.S. Court of Appeals for the First Circuit and Justice Stephen Breyer of the U.S. Supreme Court. Most recently, Ruger worked in litigation for Williams and Connolly in Washington, D.C. He specializes in constitutional law and health law and regulation, and will also teach in the law school's U.S. Attorney and Civil Justice clinics.

Nancy C. Staudt, J.D., joins the School of Law as a professor. She earned a bachelor's degree in 1985 from Ohio State University and a law degree in 1989 from the University of Minnesota. Staudt, who served as a visiting professor during the 1999-2000 academic year, specializes in federal income tax, corporate tax and tax policy. After clerking for Judge John T. Noonan on the Ninth Circuit Court of Appeals, she practiced as a tax attorney and was an associate professor at the State University of New York at Buffalo's School of Law.

Cindy Brantmeier, Ph.D., joins the Department of Romance Languages and Literature in Arts & Sciences as assistant professor of Spanish, second language acquisition and applied linguistics. She graduated with high honors from the University of Wisconsin, Stevens Point in 1990 with four majors: Spanish, English, English as a second language and education. Brantmeier earned a doctorate in applied linguistics and Spanish from Indiana University at Bloomington in May 2000. She is a specialist in second-language reading comprehension and strategy use, with a research focus upon gender variables. Brantmeier has published a number of articles and has presented papers at professional meetings in her field. In 1999, she was a recipient of the Lieber Outstanding Associate Instructor award, given each year to only four instructors across all campuses and disciplines of the Indiana University system.

Wolf Prize in Agriculture goes to biology's Beachy

By Tony Fitzpatrick

The Israel-based Wolf Foundation has announced Roger N. Beachy, Ph.D., professor of biology in Arts & Sciences, will be awarded the 2001 Wolf Prize in Agriculture.

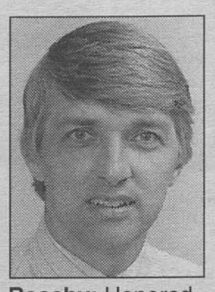
Beachy will share the honor with James E. Womack, Ph.D., professor at Texas A&M University, "for the use of recombinant DNA technology to revolutionize the plant (Beachy) and animal (Womack) sciences," said the Wolf Prize Jury in this field.

Beachy, a member of the National Academy of Sciences, "is a recognized expert in plant virology and biotechnology of plants, having established principles for genetic engineering of plants, making them resistant to viral diseases," the jury stated. "He is undoubtedly at the forefront of the plant biotechnology revolution."

Beachy received a Ph.D. in 1973 from Michigan State University. He formerly was research associate at the Department of Plant Pathology and USDA Nutrition Laboratory, Cornell University in New York.

From 1978 to 1991, Beachy was on the faculty at Washington University, initially as professor of biology, and since 1986, as director of the Center for Plant Science and Biotechnology. In 1991 he was appointed as professor and head of the Division of Plant Biology at the Scripps Research Institute in LaJolla, Calif., where he worked until 1999. Beachy returned to St. Louis as president of the Donald Danforth Plant Science Center and professor of biology at the University.

"Because he is a faculty member of our Department of Biology, we are especially proud of Roger's tremendous accomplishments in the area of viral disease resistance and its impact on world agriculture," said Ralph S. Quatrano, Ph.D., Spencer T. Olin Professor and Chair of the Department of Biology. "It is also noteworthy that much of the initial basic work done by Roger was during his tenure as a young faculty member here at Washington University. This is an honor he richly deserves."



Beachy: Honored biologist

The Wolf Foundation was established by German-born inventor, diplomat and philanthropist Dr. Ricardo Wolf. A resident of Cuba for many years, he became Fidel Castro's ambassador to Israel, where he lived until his death in 1981.

The Wolf Foundation has awarded five prizes each year since 1978 to outstanding scientists and artists "for achievements in the interest of mankind and friendly relations among peoples, irrespective of nationality, race, color, religion, sex, or political view."

The $100,000 prizes in each area are given every year in four out of five scientific fields, in rotation: agriculture, chemistry, mathematics, medicine and physics. In the arts, the prize rotates among architecture, music, painting and sculpture. A total of 194 scientists and artists from 20 countries have been honored.

"We are very proud of Dr. Beachy and the fact that he has been chosen as a recipient of this prestigious award," said Derek Montgomery, director of government and public affairs at the plant science center. "The Wolf Foundation's mission to promote science for the benefit of mankind is closely aligned with both Dr. Beachy's personal vision as well as with the mission he is working to implement at the Danforth Plant Science Center."

Israeli President Moshe Katsav will confer the Wolf Prizes at a special ceremony May 13 at the Knesset (parliament) in Jerusalem.

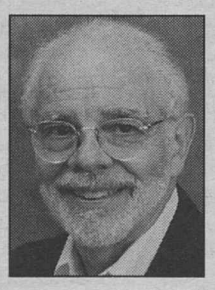
Clownin' around Barbara Pearce (center), wife of David Pearce, AR51, watches as grandchildren John Geisz (left) and twin sister Allison receive balloon hats at the Eliot Society Family Night on Jan. 26 during the men's and women's basketball games against Rochester.

Campus Authors

Gerald N. Izenberg professor in the Department of History in Arts & Sciences

Modernism and Masculinity: Mann, Wedekind, Kandinsky through World War I

(University of Chicago Press, 2000)



"Modernism and Masculinity" argues that a crisis of masculinity among European writers and artists played a key role in the modernist revolution. Gerald Izenberg revises the notion that the feminine provided a pre-modern refuge for artists critical of individualism and materialism.

Industrialization and the growing power of the market inspired novelist Thomas Mann, playwright Frank Wedekind, and painter Wassily Kandinsky to feel the problematic character of their own masculinity. As a result, these artists each came to identify creativity, transcendence, and freedom with the feminine.

But their critique of masculinity created enormous challenges: How could they appropriate a feminine aesthetic while retaining their own masculine identities? How did appropriating the feminine affect their personal relationships or their political views?

"Modernism and Masculinity" seeks to answer these questions. In this absorbing combination of biography and formal critique, Izenberg reconsiders the works of Mann, Wedekind and Kandinsky and demonstrates how the crises of masculinity they endured are found not just within the images and forms of their art, but in the distinct and very personal impulses that inspired it.

Obituaries

Philanthropist Selma G. Seldin

Selma G. Seldin, a noted University philanthropist, died Dec. 17, 2000, at her Frontenac home. She was 96.

Seldin's philanthropic activities around the University community included starting a hospice program at Jewish Hospital in 1985 and setting up a pediatric fund at St. Louis Children's Hospital. Seldin's charitable influence was also felt in the St. Louis community, including The Seldin Family Lounge built at the Jewish Federation and a kitchen built at the Jewish Center for the Aged.

In addition, Selma and her husband, Herman, established the Seldin Professorship of Medicine in Pulmonary Diseases in 1984 at the School of Medicine.

A St. Louis native, Seldin received both a bachelor's degree and an honorary degree from the University.

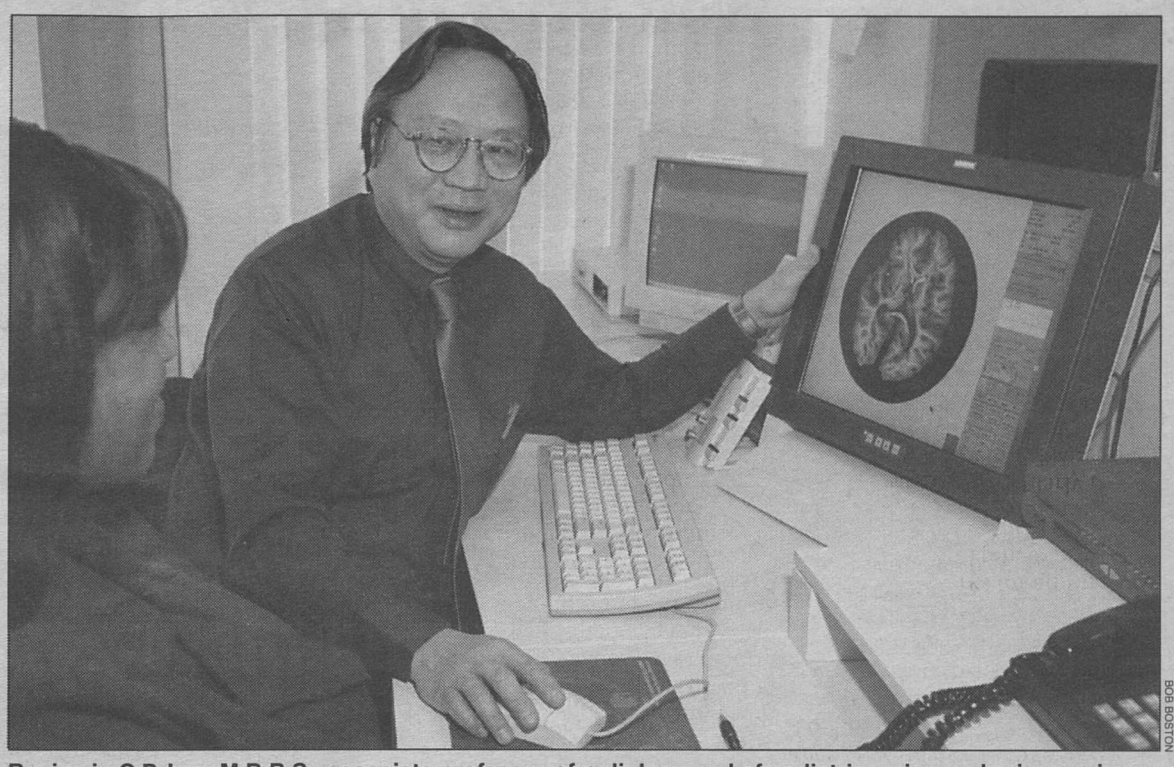
"She was a woman of wide-ranging interests," said I. Jerome Flance, M.D., clinical professor of medicine at the medical school. "She was very interested in helping the less fortunate in our population; it was her focus in life. Selma always felt that those who are able should try to give back to their communities in order to help others."

Michael J. Holtzman, M.D., the Selma and Herman Seldin Professor of Medicine said, "I feel very fortunate to have met Mrs. Seldin on a number of occasions, and each time I was more impressed. Her interest in our mission was obviously genuine and the professorship that she and her husband created has had a major impact on our efforts to understand lung disease. But the Seldin professorship goes far beyond this. In fact, it's my feeling that the occupants of this professorship are just bystanders, and its true significance is to serve as a timeless tribute to the dedication and insight and extraordinary wisdom of Mrs. Seldin."

Among her survivors are a son, Marc A. Seldin of Frontenac; a daughter-in-law, Marjorie Seldin of Frontenac; six grandchildren; and four great-grandchildren.

Memorial contributions may be made to St. Louis Children's Hospital, c/o Pediatric Care Fund, One Children's Place, St. Louis, 63110; or to a charity of the donor's choice.

Washington People



BOB BOSTON

Benjamin C.P. Lee, M.B.B.S., associate professor of radiology and of pediatrics, views a brain specimen for congenital abnormalities with research coordinator Marcia Hendrix.

Getting inside people's heads

Benjamin C.P. Lee is a leader in developing MRI and MRS, which allow noninvasive examination of the brain and other organs

By David Linzee

Benjamin C.P. Lee, M.B.B.S., savors the intellectual challenge of neuroradiology. "You're presented with a problem and you have to find the right tool to solve it," he explained.

Lee, associate professor of radiology and of pediatrics in the School of Medicine, has contributed to the development of many tools that allow physicians to view the brain without breaking the skin, looking for early signs of cancer, stroke and other disorders. These imaging methods also help scientists learn about the organization of the brain and guide surgeons in delicate procedures.

"Dr. Lee has contributed substantially to neuroradiology and specifically to magnetic resonance imaging (MRI)," said Victor M. Haughton, M.D., professor of radiology at the University of Wisconsin Medical Center in Madison.

A long road

When Lee returns to his birth city of Hong Kong to visit family, he finds few traces of the city in which he grew up – a British colony that lived under the threat of invasion from mainland China. Lee's father was a physician who hoped Benjamin, the second of six children, would carry on the tradition. The younger Lee wryly recalls that he was not altogether enthusiastic. "It looked like a long road to become a doctor," he said.

And it was, not just in years but in miles. After being sent to boarding school in England as a teen-ager, Lee would make the journey home only once a year. Contact with the British in Hong Kong had given him a lasting distaste for colonialism, but fortunately, he took to the Britons rather more than he expected to.

"The British in their homeland are very different," Lee said. "Once they accept you, they're very friendly."

His school was Spartan, but its proximity to the lovely Georgian resort of Bath allowed an occasional glimpse of elegance. The strong education provided Lee with a solid base in the sciences.

In the British system, medical education begins immediately after high school. Lee went to the University of London and in five years earned the equivalent of an M.D. And, unlike many American graduates, he was not burdened with debt. He believes the system benefited him by giving him plenty of time to choose the right specialty.

"It's not as structured over there," Lee said. "You create your own training more, going after the jobs that appeal to you." The jobs that appealed to Lee were increasingly in neurology and neurosurgery.

He was reading a great deal of philosophy at the time. Fascinated by the concepts of consciousness and free will, he speculated that neurology could be used to explore their physical connections. "When we're young, we have these big, vague ideas," Lee said with a chuckle.

He soon learned that the neurosciences deal with more concrete matters. "As a neuroradiologist, I have become very practical," he said. "I want to develop tools to help guide clinicians."

Today, one of Lee's main areas of research is MRI. This noninvasive viewing method has become a mainstay in the clinic because it provides sharp detail of the complex anatomy of the brain and other organs. It also gives a frame of reference for methods such as functional MRI (fMRI), which highlights active brain regions. Lee has worked on fMRI, improving the way it is used to study the development of children's brains and to identify the language regions to be avoided during surgery. His method is now also used on adults and for localizing other brain functions.

Functional MRI picks up increased levels of oxygen in brain's blood vessels. By processing computer data from this technique differently, researchers at the School of Medicine developed high-resolution blood-oxygen-level-dependent venography. Lee was lead author of a study that showed how this method might be used to spot malformed blood vessels that make a person vulnerable to stroke, and to measure the growth of tumors.

Another adaptation of MRI is magnetic resonance spectroscopy (MRS), which looks at the chemical composition of the brain. Lee participated in a recent multicenter study that, by solving many practical problems, made MRS more usable in a clinic. Physicians increasingly employ MRS as a supplement to MRI in assessing the malignancy of tumors and detecting metabolic disorders of the brain.

Lee is helping explore other MRS uses. One is the study of myelination, the formation of sheaths around neurons in the developing brain. If these coatings do not properly insulate the neurons, they malfunction, as in multiple sclerosis. MRS is also useful in epilepsy, to help surgeons pinpoint the site of the disease.

Lee is presently evaluating the effectiveness of MRS in early diagnosis of Alzheimer's disease. The work is part of a major National Institutes of Health grant to the medical school's Alzheimer's Disease Research Center.

"We're hoping to develop ways to detect the disease early," Lee said. "If it can be caught before symptoms appear, treatment may be much more effective."

> **"Dr. Lee has always been quick to introduce new imaging techniques at the hospital. We have all benefited from his consistent efforts in the last decade. He has laid a solid foundation for future growth of pediatric neuroradiology at the School of Medicine."**
>
> Tae Sung Park

Coming to America

After completing his training at the National Hospital for Nervous Diseases in London, Lee took a fellowship at Cornell University Medical College in New York City. He had never been to America before. New York struck him as a madhouse, but he came to enjoy Carnegie Hall and the Metropolitan Opera.

He also adapted to the pace at which American researchers worked. "Tea breaks became a thing of the past," he joked.

Following 10 years in New York and faculty appointments at the universities of California and Minnesota, Lee came to Washington University in 1991. "I knew that the Mallinckrodt Institute of Radiology was an excellent department," he said. "And I found that pediatric radiology needed building up."

Lee has worked on strengthening rapport among radiologists, neurologists and neurosurgeons. He has installed a new all-digital system for storage and retrieval of images, doing away with film entirely. And he has set high standards for the training of residents and fellows.

Now the department at St. Louis Children's Hospital sees so many patients, it is purchasing a second MR scanner. Only one other children's hospital in North America has two.

"Dr. Lee has always been quick to introduce new imaging techniques at the hospital," said Tae Sung Park, M.D., the Shi H. Huang Professor of Neurological Surgery. "We have all benefited from his consistent efforts in the last decade. He has laid a solid foundation for future growth of pediatric neuroradiology at the School of Medicine."

Lee's wife, Stella, grew up a half-mile from him in Hong Kong. But they did not meet until they were graduate students in London.

"As children, we had friends in common, but they neglected to introduce us," Lee said with a smile. The Lees have a son, Gerald, who works for an Internet company in San Francisco.

The Lees live in the Central West End. They enjoy the city's cultural venues, particularly the symphony and Opera Theater of St. Louis.

What keeps him busiest – and what he calls the most enjoyable part of his job – is teaching research fellows. "Young people ask the difficult questions," Lee said. "It's always a challenge to stay one step ahead of them."

Benjamin C.P. Lee

Born: Hong Kong

Education: M.B.B.S., University of London

University position: Associate professor of radiology and of pediatrics

Family: Wife, Stella; son, Gerald